

DCPP Long Term Seismic Program Update Evaluation of Updated Seismic Hazard Information

Flowchart A - Overview

DRAFT
(03-29-2011)

Process for Updates to the Long Term Seismic Program (LTSP)
Seismic Probabilistic Risk and Seismic Margins Assessment
(to be performed on a 10 year interval) ⁽¹⁾

Updated LTSP Seismic Hazard Input
Information Received by DCPD ⁽²⁾
or Ten Years Since Prior Update ⁽¹⁾

Seismic Probabilistic Risk Assessment

Confirmatory Path
-
Used for Safety Risk Assessment
(cannot start until seismic hazard curves are available
and typically, the assessment will take 6 months to
complete) ⁽⁴⁾

Seismic Margins Assessment

Primary Path
-
Used for Operability Determination
(to be performed within 24 hours of receipt of data) ⁽³⁾

See
Flowchart
C

Submit Peer-Reviewed
Updated LTSP Information to
Nuclear Regulatory
Commission (NRC) /
Nuclear Reactor Regulation
(NRR)

See
Flowchart
B

Restart 10 Year
Interval

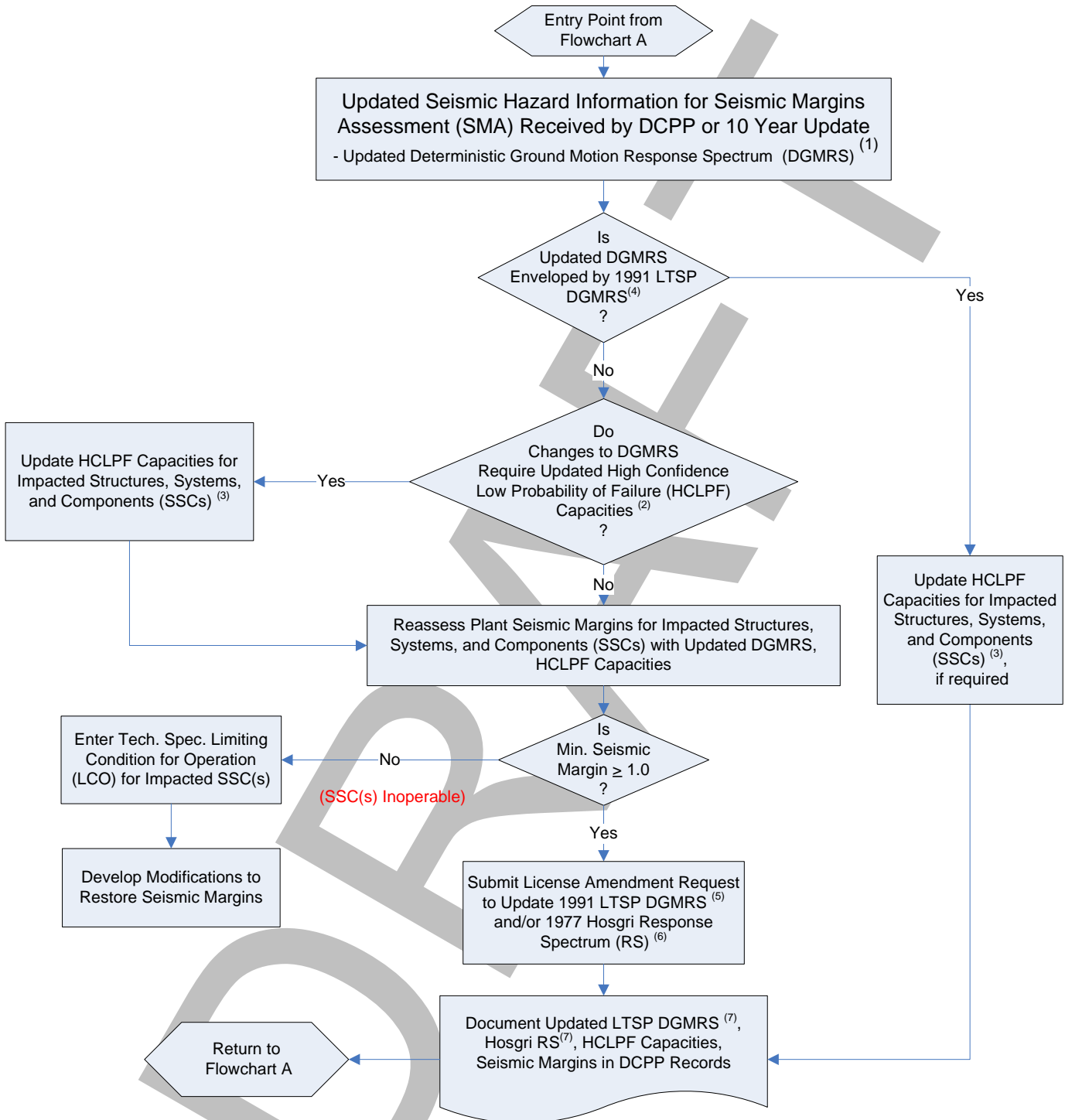
Notes:

- (1) Update to be performed at less than a 10 year interval if significant new information becomes available. The start of each interval to be based on submittal date of prior update.
- (2) Seismic Hazard Input is developed by the PG&E Geosciences Department. Types of input include seismic hazard curves, deterministic ground motion response spectrum, source characterization, ground motion spectral shapes, etc.
- (3) Seismic Margins Assessment based on deterministic ground motion response spectrum.
- (4) Seismic Hazard Curves are typically available within 30 days.

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Flowchart B – Seismic Margins Assessment



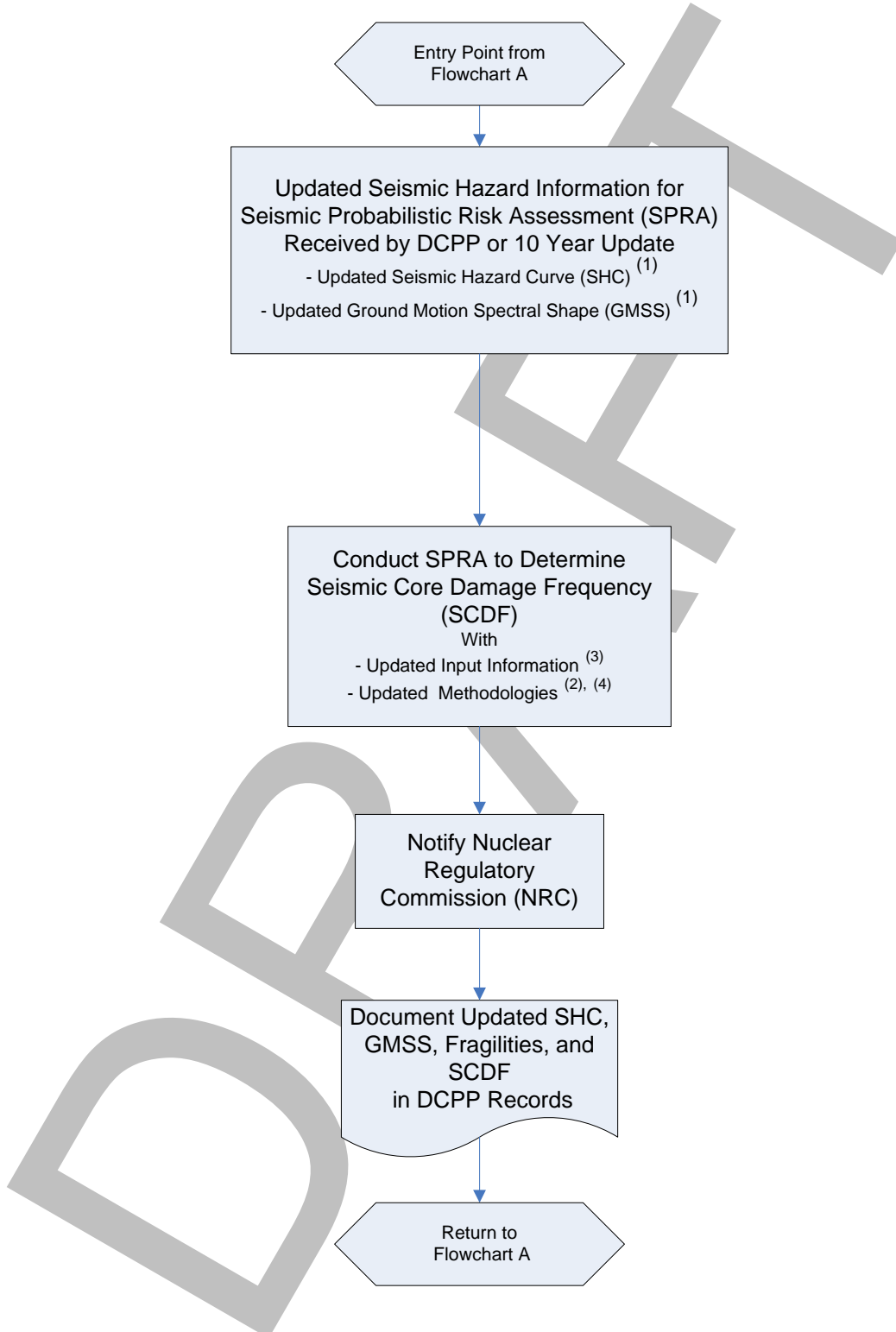
Notes:

- (1) The Deterministic Ground Motion Response Spectrum (DGMRS) is developed by the PG&E Geosciences Department in accordance with peer-reviewed methodologies.
- (2) Changes in the DGMRS may impact the in-structure response spectra, which are an input to the High Confidence Low Probability of Failure (HCLPF) capacities of Structures, Systems, and Components (SSCs).
- (3) The HCLPF capacities are based on the methodologies defined in EPRI NP-6041-SL.
- (4) The 1991 LTSP DGMRS is that defined in the 1988 LTSP Final Report, as modified by the NRC in SSER-34 (1991).
- (5) Update required if the Updated DGMRS exceeds the 1991 LTSP DGRMS at any frequency.
- (6) Update required if the Updated DGMRS exceeds the design basis 1977 Hosgri Earthquake response spectrum, as defined in the DCPD Updated Final Safety Analysis Report, Section 2.5, at any frequency
- (7) The 1991 LTSP DGMRS and/or the 1977 Hosgri RS may be updated based new information subsequent to NRC approval of a License Amendment.

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Flowchart C – Seismic Probabilistic Risk Assessment



Notes:

- (1) The Seismic Hazard Curves (SHC) and Ground Motion Spectral Shape (GMSS) are developed by the PG&E Geosciences Department in accordance with peer-reviewed methodologies.
- (2) The Seismic Probabilistic Risk Assessment (SPRA) will be based on Capability Category II of ASME/ANS RA-Sa-2009, as modified by Reg. Guide 1.200.
- (3) Input information includes seismic hazard curves, ground motion spectral shape, and fragilities.
- (4) Fragilities are based on the shape of the ground motion spectral shape and peer-reviewed fragility calculation methods (ASME/ANS RA-Sa-2009, as modified by Reg. Guide 1.200, EPRI TR-103958, 1002988, 1019200)